

Starting Formulation

SF 4003 Low Curing Adhesive 8111 3271 Low Temperature Curing Adhesive EPON™ Resin 8111 / EPIKURE™ Curing Agent 3271

Introduction This high reactivity, epoxy adhesive is designed for rapid bond strength to a variety of substrates at ambient temperatures of 25 °C to -10 °C and below.

Suggested Uses

- Anchoring system
- Adhesive for low temperature
- Rapid set applications

Features

- Fast set time
- Low viscosity permits ease of dispensing
- Low temperature cure allows for wide seasonal installations periods

Formula	<u>Material</u>	<u>Supplier</u>	<u>Pounds</u>	<u>Gallons</u>
Part A				
	EPON Resin 8111	Hexion	100.0	10.46
	Cab-O-Sil M-5 Silica	Cabot Corp.	<u>5.0</u>	<u>0.28</u>
		Part A	105.0	11.16
Part B				
	EPIKURE Curing Agent 3271	Hexion	<u>22.1</u>	<u>2.59</u>
		Part B	22.1	2.59
		Total Part A & B	127.1	13.75

Mixing Instructions Disperse the Cab-O-Sil M-5 into a portion of the EPON Resin 8111 using a Cowles Dissolver, 3-roll mill, or other suitable high shear dispersing technique. After a uniform, well-dispersed mix is attained, add the remaining EPON Resin 8111 and mix with low speed agitation.

Surfaces to be bonded should be clean and free of dust, dirt, grease, or other extraneous material. Mix the adhesive components and apply immediately by spreading a thin film over the surface to be bonded. Maintain light pressure during cure to achieve the best bond.

Typical Handling Properties Table 1 / Handling Properties

	<u>Units</u>	<u>Value</u>
Mix Ratio Part A : Part B	By Volume	4.3 : 1

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Mix Ratio Part A : Part B	By Weight	4.75 : 1
Viscosity, Resin (ASTM D-2196)		
at 1 rpm	cP	5,400
at 10 rpm	cP	3,200
at 50 rpm	cP	3,080
Viscosity, Curing Agent	cP	150
Gel Time, 100 grams (SHYODU)		
at 25°C	min.	1
at -4°C	min.	2.75
at -10°C	min.	3.25
at -22°C	min.	5
Density		
Resin	lb/gal	9.41
Curing Agent	lb/gal	8.56
System	lb/gal	9.26

Typical Adhesive Table 2 / Tensile Shear Strength, Etched Aluminum to Etched Aluminum Properties

<u>Cure Temperature</u>	<u>Cure Time</u>	<u>Units</u>	<u>Value</u>
25°C	30 minutes	psi	90
	60 minutes	psi	130
	90 minutes	psi	300
	24 hours	psi	2,400
	3 days	psi	2,700
	7 days	psi	3,000
	7 days plus 7 day water soak	psi	2,300
-4°C	3 hours	psi	2,300
	24 hours	psi	125
	3 days	psi	720
-10°C	4 hours	psi	130
	24 hours	psi	400
	3 days	psi	510
-22°C	8 hours	psi	90
	24 hours	psi	130
	3 days	psi	280

Typical Adhesive Table 3 / Adhesive Tensile Bond Strength, Sandblasted Steel to Sandblasted Steel Properties

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<u>Cure Temperature</u>	<u>Cure Time</u>	<u>Units</u>	<u>Value</u>
-10°C	17 hours	psi	360
	48 hours	psi	570
	65 hours	psi	1,300
-10°C	17 hours	psi	360

Storage Recommendations regarding storage conditions can be obtained by visiting our web site at www.hexion.com

General Information

These are starting formulations and are not proven in the user's particular application but are simply meant to demonstrate the efficacy of the products and to assist in the development of the user's own formulation. It is the user's responsibility to fully-test and qualify the formulation, along with the ingredients, methods, applications or equipment identified herein ("Information"), by the user's knowledgeable formulator or scientist, and to determine the appropriate use conditions and legal restrictions, prior to use of any Information.

Safety, Storage & Handling

Please refer to the MSDS for the most current Safety and Handling information.

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Contact Information

For product prices, availability, or order placement, please contact customer service:

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For literature and technical assistance, visit our website at www.hexion.com

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